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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/757,128

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Eric J. Glover

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EXAMINER

PONIKIEWSKI, TOMASZ

ART UNIT

PAPER NUMBER

2165

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/19/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/757,128

Applicant(s)

GLOVER ET AL.

Examiner

Tomasz Ponikiewski

Art Unit

2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 January 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5,7-10,13-17 and 20-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-10,13-17 and 20-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. Claims 1-5,7-10,13-17 and 20-28 are pending.
2. Applicant's reply to Office Action received January 24, 2007 is acknowledged.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 7-10, 13-17, 20-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simske et al. (US 2004/0064447 A1) in view of Rui (US 6,859,802 B1).

As per claim 1 Simske et al. is directed to a computer-implemented method to search for data responsive to first and second query concepts, comprising:

receiving a first set of expanded results generated from one or more results of a first query concept by utilizing one or more data sources (paragraph 0066);

receiving a second set of expanded results generated from one or more results a second query concept by utilizing the one or more data sources (paragraph 0066);

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determining an intersection set of documents from the first and second sets of expanded results, wherein a relationship is determined between the first and second query concepts from the intersecting set of documents (paragraph 0080, lines 14-21, wherein the intersection would be indicated by the top weighted items, and therefore showing relationship of similarity); and

displaying one of: the relationship, the responsive data (paragraph 0080, lines 25-27)

wherein expanded results are generated by:

defining a first set of documents relevant to the query concept, the first set of documents being a subset of a collection set of documents (paragraph 0078);

building a first histogram of features from the first set of documents (paragraph 0078, wherein the histogram could be interpreted as most optimal synonymic queries);

and selecting features for an expanded feature set by comparing the first histogram of features with a second histogram of features from the collection set of documents (paragraph 0078)

wherein a feedback scoring function is applied to results generated from the expanded feature set (paragraph 0080, lines 8-14)

Simske et al. does not teach wherein the feedback scoring function assigns a fixed score to each feature and where feature is assigned different fixed scores.

Rui teaches wherein the feedback scoring function assigns a fixed score to each feature and where feature is assigned different fixed scores (column 14, lines 46-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Simske et al. by teachings of Rui to include wherein the feedback scoring function assigns a fixed score to each feature and where feature is assigned different fixed scores because scoring or ranking or weighing is well know in the art.

As per claim 2 Simske et al. as modified is directed to the relationship between the first and second query concepts is determined for each document those concepts related to the document from a larger concept set, the larger concept set including expansions of the first query concept and the second query concept (paragraph 0080, lines 14-21).

As per claim 3 Simske et al. as modified is directed to a first relevance score is assigned to the first set of expanded results and a second relevance score is assigned to the second set of expanded results and wherein a composite relevance score is assigned to the intersection set of documents (paragraph 0080, lines 18-21).

As per claim 4 Simske et al. as modified is directed to a composite score is assigned by multiplying the first and second relevance scores (paragraph 0105, lines 7-10).

As per claim 5 Simske et al. as modified is directed to the documents are filtered by a relevance score (paragraph 0145, lines 4-10, wherein not relevant words are filtered).

As per claim 7 Simske et al. as modified is directed to the features in the second histogram are a baseline expansion feature set and the features for the expanded feature set are selected by removing features from the baseline expansion feature set based on how often the features appear in the first histogram (paragraph 0078).

As per claim 8 Simske et al. as modified is directed to wherein the baseline expansion feature set is generated by training on a random data sample (paragraph 0062).

As per claim 9 Simske et al. as modified is directed to the expanded feature set is ranked by expected entropy loss (paragraph 0078).

As per claim 10 Simske et al. as modified is directed to concept constraints are applied to the expanded feature set (paragraph 0078).

As per claim 13 Simske et al. is directed to a computer-implemented method for automatic query expansion comprising:

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defining a first set of documents relevant to the query concept, the first set of documents being a subset of a collection set of documents (paragraph 0078);

building a first histogram of features from the first set of documents (paragraph 0078);

selecting features for an expanded feature set by comparing the first histogram of features with a second histogram of features from the collection set of documents (paragraph 0078); and

displaying the query expression (page 9, paragraph 0078, lines 3-6, wherein user sees the query expansion)

wherein to a feedback scoring function is applied to results generated from the expanded feature set (paragraph 0080, lines 8-14)

Simske et al. does not teach wherein the feedback scoring function assigns a fixed score to each feature and wherein feature is assigned different fixed scores.

Rui teaches wherein the feedback scoring function assigns a fixed score to each feature and wherein feature is assigned different fixed scores (column 14, lines 46-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Simske et al. by teachings of Rui to include wherein the feedback scoring function assigns a fixed score to each feature and wherein feature is assigned different fixed scores because scoring or ranking or weighing is well know in the art.

As per claim 14 Simske et al. as modified is directed to the features in the second histogram are a baseline expansion feature set and the features for the expanded feature set are selected by removing features from the baseline expansion feature set based on how often the features appear in the first histogram (paragraph 0078).

As per claim 15 Simske et al. as modified is directed to wherein the baseline expansion feature set is generated by training on a random data sample (paragraph 0062).

As per claim 16 Simske et al. as modified is directed to the expanded feature set is ranked by expected entropy loss (paragraph 0078).

As per claim 17, Simske et al. as modified is directed to concept constraints are applied to the expanded feature set (paragraph 0078).

As per claim 20 Simske et al. is directed to a computer-readable medium storing instructions to search for data responsive to first and second query concepts, the medium comprising instructions to perform:

receiving a first set of expanded results generated from one or more results of a first query concept by utilizing one or more data sources (paragraph 0066);



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receiving a second set of expanded results generated from one or more results of a second query concept by utilizing the one or more data sources (paragraph 0066);

determining an intersection set of documents from the first and second sets of expanded results, wherein a relationship can be determined between the first and second query concepts from the intersecting set of documents (paragraph 0080, lines 14-21, wherein the intersection would be indicated by the top weighted items, and therefore showing relationship of similarity); and

displaying one of: the relationship, the responsive data (paragraph 0080, lines 25-27)

defining a first set of documents relevant to the query concept, the first set of documents being a subset of a collection set of documents (paragraph 0078);

building a first histogram of features from the first set of documents (paragraph 0078, wherein the histogram could be interpreted as most optimal synonymic queries);

and selecting features for an expanded feature set by comparing the first histogram of features with a second histogram of features from the collection set of documents (paragraph 0078)

wherein a feedback scoring function is applied to results generated from the expanded feature set (paragraph 0080, lines 8-14)

Simske et al. does not teach wherein the feedback scoring function assigns a fixed score to each feature and where feature is assigned different fixed scores.

Rui teaches wherein the feedback scoring function assigns a fixed score to each feature and where feature is assigned different fixed scores (column 14, lines 46-47).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Simske et al. by teachings of Rui to include wherein the feedback scoring function assigns a fixed score to each feature and where feature is assigned different fixed scores because scoring or ranking or weighing is well know in the art.

As per claim 21 Simske et al. as modified is directed to the relationship between the first and second query concepts is determined for each document those concepts related to the document from a larger concept set, the larger concept set including expansions of the first query concept and the second query concept (paragraph 0080, lines 14-21).

As per claim 22 Simske et al. as modified is directed to a first relevance score is assigned to the first set of expanded results and a second relevance score is assigned to the second set of expanded results and wherein a composite relevance score is assigned to the intersection set of documents (paragraph 0080, lines 18-21).

As per claim 23, Simske et al. as modified is directed to the expanded results are generated by:

defining a first set of documents relevant to the query concept, the first set of documents being a subset of a collection set of documents (paragraph 0078);

building a first histogram of features from the first set of documents (paragraph 0078, wherein the histogram could be interpreted as most optimal synonymic queries); and selecting features for an expanded feature set by comparing the first histogram of features with a second histogram of features from the collection set of documents (v).

As per claim 24 Simske et al. is directed to a computer-readable medium storing instructions for automatic query expansion, the medium comprising instructions to perform:

defining a first set of documents relevant to a first query concept, the first set of documents being a subset of a collection set of documents (paragraph 0078);

building a first histogram of features from the first set of documents (paragraph 0078);

selecting features for an expanded feature set by comparing the first histogram of features with a second histogram of features from the collection set of documents (paragraph 0078); and

displaying the query expression (page 9, paragraph 0078, lines 3-6, wherein user sees the query expansion)

wherein to a feedback scoring function is applied to results generated from the expanded feature set (paragraph 0080, lines 8-14) and

Simske et al. does not teach wherein the feedback scoring function assigns a fixed score to each feature and wherein feature is assigned different fixed scores.

Rui teaches wherein the feedback scoring function assigns a fixed score to each feature and wherein feature is assigned different fixed scores (column 14, lines 46-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Simske et al. by teachings of Rui to include wherein the feedback scoring function assigns a fixed score to each feature and wherein feature is assigned different fixed scores because scoring or ranking or weighing is well know in the art.

As per claim 25 Simske et al. as modified is directed to the features in the second histogram are a baseline expansion feature set and the features for the expanded feature set are selected by removing features from the baseline expansion feature set based on how often the features appear in the first histogram (paragraph 0078).

As per claim 26 Simske et al. as modified is directed to wherein the baseline expansion feature set is generated by training on a random data sample (paragraph 0062).

As per claim 27 Simske et al. as modified directed to the expanded feature set is ranked by expected entropy loss (paragraph 0078).

As per claim 28 Simske et al. as modified is directed to concept constraints are applied to the expanded feature set (paragraph 0078).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5,7-10,13-17 and 20-28 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tomasz Ponikiewski whose telephone number is (571)272-1721. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on (571)272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tomasz Ponikiewski  
April 16, 2007

*Muhammad Abdel-Jalil*  
